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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/353,906	07/15/1999	EMRE GUNDUZHAN	2204/188	4271

7590 01/12/2004
Mary Steubing Esq.
41 Jewett Street
Pepperell, MA 01463

EXAMINER

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 01/12/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/353,906

Applicant(s)

GUNDUZHAN, EMRE

Examiner

Michael N. Opsasnick

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/30/2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeldener (5890108) in view of Wang et al (6499060).

As per claims 1,11,20-22,30,31 Yeldener (5890108) teaches a method for generating a new audio segment....based on a plurality of audio segments (abstract lines 1-7), the method comprising:

“locating a set of consecutive audio segments.....having a formant” as processing each frame (col. 4 lines 10-15);

“removing the formant.....having a pitch” as extracting LPC features (col. 4 lines 15-20)

“processing the pitch.....residue segments” as extracting LSF features (col. 4 lines 21-30)

“adding the formant.....output audio segment” as using these features to regenerate the signal, and for interpolation, col. 4 lines 10-35.

Yeldener (5890108) does not explicitly teach tracking unascertainable (ie., missing, bad) audio segments, however, Wang et al (6499060) teaches tracking lost data and recovering such lost data by estimating between the non-lost segments (col. 1 lines 5-25; and col. 2 line 63 – col. 3 line 5; examiner also notes that Wang et al (6499060) teaches the use of this process for audio segments as well, Wang et al (6499060) col. 18 line 50 – col. 19 line 19). Therefore, it would have been obvious to one of ordinary skill in the art of audio signal processing to modify the teachings of Yeldener (5890108) with lost frame tracking and recovery techniques as taught Wang et al (6499060) because it would advantageously improve data recovery without sacrificing bandwidth (Wang et al (6499060) , col. 2 lines 38-53).

As per claims 2,12, and 23, Yeldener (5890108) teaches tracking the audio segments (Nth sample) during nonascertainable voice (col. 20 lines 10-40)

As per claims 3,13, and 24, Yeldener (5890108) teaches speech data packets (col. 6 lines 62-65)

As per claims 4,14, and 25, Yeldener (5890108) teaches determining the pitch of the set of residues (as pitch estimates; col. 11 lines 6-45)

As per claim 5,15, Yeldener (5890108) teaches formant removal using LPC (col. 11, lines 25-45)

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As per claims 6,16, Yeldener (5890108) teaches pitch and residue segments using LPC (col. 7 lines 40-50)

As per claims 7,17, and 27, Yeldener (5890108) teaches the formant having a variable value (as LSF's formula varies over the segment -- col. 20 lines 25-40)

As per claims 8,18, and 28, Yeldener (5890108) teaches overlap add operations (fig. 8 subblock 580)

As per claims 9,19 and 29, Yeldener (5890108) teaches scaling the overlap/audio segment to produce a scaled audio segment as weighting the filtered signal (col. 20 lines 61-66)

As per claim 10, Yeldener (5890108) teaches adding the output audio segment to the audio signal in place of the given audio segment as interpolating between the audio segments (and replacing the boundary (abstract, line 19-25).

As per claim 26, Yeldener (5890108) teaches inverse filtering (col. 21 lines 48-67).

Response to Arguments

3. Applicant's arguments received 10/30/2003 have been fully considered but they are not persuasive. As per applicant's arguments that the Yeldener (5890108) and Wang et al (6499060) references are from two fundamentally different art areas, examiner argues that voice data compression (Wang et al (6499060)) is a subset of the art of encoding speech signals (Yeldener (5890108)). Furthermore, applicant points to Wang teaching encoding on page 4 of the response. With respect to applicant's arguments that "Wang does not teach 'recovering such lost data by estimating between the non-lost segments'", examiner argues that Wang's "falling back to some previously encoded reliable segment" is estimating between non-lost segments. If applicant's wish to differentiate between their own estimating function and Wang's then examiner suggests changing the scope of the claim limitations to overcome the Wang reference. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As per applicant's arguments against Yeldener on the bottom of page 5 of the response, examiner argues that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Yeldener (5890108) teaches "locating a set of consecutive audio segments.....having a formant" as processing each frame (col. 4 lines 10-15); "removing the formant.....having a pitch" as extracting LPC features (col. 4 lines 15-20); "processing the pitch.....residue segments" as extracting LSF features (col. 4 lines 21-30); "adding the

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formant.....output audio segment" as using these features to regenerate the signal, and for interpolation, col. 4 lines 10-35. These arguments amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. (there is no side-by-side comparison of Yeldener to the scope of the recited claim language).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

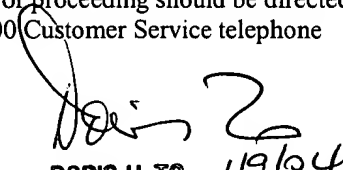
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno
1/4/2004


DORIS H. TO 1/9/04
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